

**WHAT IS CLAIMED IS:**

1. A wet lay process for preparing a glass fiber mat comprising the steps of:
  - (a) sizing glass fibers with a sizing composition which includes a partially amided polyalkylene imine cationic lubricant;
  - (b) separating said sized glass fibers by immersing said sized glass fibers in an aqueous dispersant medium, whereby a slurry is formed;
  - (c) agitating said slurry;
  - (d) removing individual sized glass fibers from said aqueous slurry;
  - (e) drying said individual sized glass fibers;
  - (f) contacting said dried, sized glass fibers with a thermosetting binding resin; and
  - (g) curing said thermosetting resin whereby a glass fiber mat is formed.
- 10 2. A process in accordance with Claim 1 wherein said partially amided polyalkylene imine cationic lubricant comprises between about 0.005% and about 0.20% by weight, said percentages being by weight, based on the total weight of the sizing composition.
- 15 3. A process in accordance with Claim 1 wherein said partially amided polyalkylene imine has a residual amine value of from about 200 to about 800 and is the reaction product of fatty acids containing between about 2 and about 18 carbon atoms and a polyethylene imine having a molecular weight of from about 800 to about 50,000.
- 20 4. A process in accordance with Claim 1 wherein said sized glass fibers have a loss on ignition in the range of between about 0.01% and about 0.75%.
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5. A process in accordance with Claim 4 wherein said sized glass fibers have a loss on ignition in the range of between about 0.05% and about 0.5%.

5       6. A process in accordance with Claim 1 wherein said step (b) of separating said sized glass fibers occurs in the presence of an emulsifier to generate entrained air.

7. A process in accordance with Claim 1 wherein said drying step (e) occurs on a endless moving conveyer.

10       8. A process in accordance with Claim 7 wherein said binding step (f) occurs on an endless moving conveyer disposed adjacent to said endless moving conveyer employed in drying said dried sized glass fibers.

15       9. A process in accordance with Claim 8 wherein said thermosetting binding resin is urea formaldehyde.

10       10. A process in accordance with Claim 1 wherein said curing step (g) occurs by heating said product of step (f) at a temperature of at least about 175°C.

20       11. A glass fiber web comprising glass fibers sized with a sizing composition which includes a partially amidated polyalkylene imine cationic lubricant.

12. A web in accordance with Claim 11 wherein said sized glass fibers are dispersed in a cured thermosetting resin.

25       13. A web in accordance with Claim 12 wherein said partially amidated polyalkylene imine cationic lubricant comprises between about 0.005% and about 0.02%, said percentages being by weight, based on the total weight of the sizing composition.

14. A web in accordance with Claim 13 wherein said sized glass fibers have a loss on ignition in the range of between about 0.01% and about 0.75%.

5        15. A web in accordance with Claim 14 wherein said sized glass fibers have a loss on ignition in the range of between about 0.05% and about 0.5%.

10      16. A web in accordance with Claim 15 wherein said sized glass fibers have a loss on ignition in the range of between about 0.1% and about 0.2%.

10      17. A web in accordance with Claim 14 wherein said partially amidated polyalkylene imine has a residual amine value of from about 200 to about 800 and is the reaction product of fatty acids containing between about 2 and about 8 carbon atoms and a polyethylene imine having a molecular weight of from about 800 to about 15     50,000.

18. A web in accordance with Claim 11 wherein said cured thermosetting resin is cured urea formaldehyde.